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ABSTRACT

This publication is the teachers' manual, level 9, of the Instructional Support Systems (ISS) Program, which was developed by the Community School District 18 of New York. The curriculum was designed to fulfill the requirements established by the New York State Board of Regents for the Algebra I course. Two sequences of modules are suggested, for either a two-term or three-term course of study. Instructional objectives for five topics are included: (1) equations and inequalities; (2) verbal problems; (3) polynomials, factoring, and fractions; (4) graphing; and (5) radicals and trigonometry. (HM)

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CSD-18

ISS-BASED

MATHEMATICS PROGRAM

TEACHERS MANUAL,

LEVEL 09

CURRICULUM

Funded by Title IV C Grant

SE 027 741

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Milton Anger, Director of Educational Development

Jack Friedman, (Acting) Director of Instructional Support Systems

Preface

This manual was written as an outgrowth of an experiment funded by Title IVC as part of a total comprehensive instructional management system. To date, curriculum guides have been developed for the following subject areas - Mathematics Grades 1-9; Consumer Education, Interrediate Grades; Metric Education, Intermediate Grades.

All these instructional guides were developed in order to meet the instructional needs of our district's educational community. In order to insure their usefulness, these guides are continuously being updated to meet the rigorous requirements of continuous teacher feedback and periodic districtwide needs assessment instruments. As you will note, this guide and its companion guides offer detailed instructional objectives accompanied by student and/or teacher oriented activities.

BOARD OF EDUCATION OF THE CITY OF NEW YORK
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Director of Educational Development
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Director of Pupil Personnel Services

September 8, 1978

Dear Colleagues:

Completing a high caliber curriculum manual such as the ISS Mathematics Bulletin, is a herculean task that required the input and cooperation of all the teachers and supervisors in District 18.

Although the curriculum manual has been printed and distributed, the District Office continues to encourage the professional staff to offer constructive suggestions and feedback so that its content can be intelligently revised and refined; thus, we will have a document whose life blood results from the experiences and needs of the professional staff.

Because of your efforts in the ISS, the pupils of District 18 have continually shown improvement in their mathematics achievement. We are certain that this improvement in achievement and your efforts in the ISS will continue for the betterment of all involved in the education of our children.

Harvey Garner
Community Superintendent

Milton Anger
Director of Educational Development

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Acknowledgements

The ISS Mathematics Program was developed as a cooperative venture of the Community School District 18 (Jack Zimmer, President, Harvey Garner, Community Superintendent), The State Education Department, (Gerald Freeborne, Assistant Commissioner for Long Range Planning, James Sullivan, CIMS Coordinator) and Metropolitan Educational Laboratory of the Board of Education of the City of New York, (Dr. Richard Vigilante, Administrator, Wayne W. Trigg, Director).

Over the last four years, the planning, designing, researching, writing, editing, implementing and revising of the curricula were made possible through the efforts of the following people:

Milton Anger, Director of Educational Development

Elementary School Curricula	Junior High School Curricula
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MODULE SEQUENCE FOR LEVEL 09

TWO TERM ALGEBRA I

Module	Title	Days[1]
9.01.01	LINEAR EQUATIONS IN ONE VARIABLE	6
9.02.01	NUMBER,CONSECUTIVE INTEGER,AGE AND COIN PROBLEMS	10
9.03.01	ADDITION,SUBTRACTION, MULTIPLICATION AND DIVISION OF MONOMIALS	7
9.03.02	ADDITION,SUBTRACTION AND MULTIPLICATION OF POLYNOMIALS	10
9.02.02	PERIMETER,ANGLE AND TRIANGLE PROBLEMS	5
9.04.01	GRAPHING LINEAR EQUATIONS ON THE COORDINATE PLANE	10
9.04.02	SLOPE	10
9.04.03	GRAPHING INEQUALITIES	6
9.02.03	MOTION PROBLEMS	7
9.03.03	DIVISION AND FACTORING POLYNOMIALS	11
9.01.03	QUADRATIC EQUATIONS AND VERBAL PROBLEMS	6
9.03.04	OPERATIONS WITH ALGEBRAIC FRACTIONS	11
9.01.04	FRACTIONAL EQUATIONS AND VERBAL PROBLEMS	7
9.01.02	SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES IN TWO VARIABLES	8
9.02.05	MIXTURE, INVESTMENT, DIGIT AND BUSINESS PROBLEMS	8
9.05.01	RADICALS	10
9.02.04	PYTHAGOREAN,RATIO, PROPORTION AND SIMILAR TRIANGLE PROBLEMS	6
9.05.02	TRIGONOMETRY	8
9.02.06	LITERAL EQUATIONS,AVERAGE AND PERCENT PROBLEMS	4

[1] SUGGESTED DURATION INCLUDES TIME FOR REVIEW AND TESTING.

MODULE SEQUENCE FOR LEVEL 09

THREE TERM ALGEBRA I

Module	Title	Days[1]
	PART A	
8.08.01	INTEGERS AND THE NUMBER LINE	1
8.08.02	ADDITION AND SUBTRACTION OF INTEGERS	3
8.08.03	MULTIPLICATION AND DIVISION OF INTEGERS	3
8.08.04	PROPERTIES OF INTEGERS	3
8.11.01	APPLYING THE ORDER OF OPERATIONS	4
8.11.02	EVALUATING AN ALGEBRAIC EXPRESSION	3
8.11.03	OPEN SENTENCES AND EQUATIONS	3
8.11.04	SOLVING AND GRAPHING INEQUALITIES BY INSPECTION	4
8.11.05	SOLVING EQUATIONS BY PROPERTIES OF EQUALITY	7
8.11.06	TRANSLATING	5
8.11.07	VERBAL PROBLEMS	4
9.01.01	LINEAR EQUATIONS IN ONE VARIABLE	8
9.02.01	NUMBER,CONSECUTIVE INTEGER,AGE AND COIN PROBLEMS	12
9.03.01	ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION OF MONOMIALS	9
9.03.02	ADDITION, SUBTRACTION AND MULTIPLICATION OF POLYNOMIALS	12

PART B

9.02.02	PERIMETER,ANGLE AND TRIANGLE PROBLEMS	7
9.04.01	GRAPHING LINEAR EQUATIONS ON THE COORDINATE PLANE	12
9.04.02	SLOPE	12
9.04.03	GRAPHING INEQUALITIES	8
9.02.03	MOTION PROBLEMS	9
9.01.02	SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES IN TWO VARIABLES	10
9.02.05	MIXTURE,INVESTMENT, DIGIT AND BUSINESS PROBLEMS	10
9.03.03	DIVISION AND FACTORING POLYNOMIALS	13

PART C

9.01.03	QUADRATIC EQUATIONS AND VERBAL PROBLEMS	8
9.03.04	OPERATIONS WITH ALGEBRAIC FRACTIONS	13
9.01.04	FRACTIONAL EQUATIONS AND VERBAL PROBLEMS	9
9.05.01	RADICALS	12
9.02.04	PYTHAGOREAN,RATIO, PROPORTION AND SIMILAR TRIANGLE PROBLEMS	8
9.05.02	TRIGONOMETRY	10
9.02.06	LITERAL EQUATIONS,AVERAGE AND PERCENT PROBLEMS	6

EQUATIONS & INEQUALITIES

		2-TERM Days	3-TERM Days
9.01.01	Linear Equations In one Variable	6	8
9.01.02	Systems of Linear Equations and Inequalities in Two Variables	8	10
9.01.03	Quadratic Equations and Verbal Problems	6	8
9.01.04	Fractional Equations and Verbal Problems	7	9

9.01.01

LINEAR EQUATIONS IN ONE VARIABLE

(2-Term, 6 days)
(3-Term, 8 days)

PREREQUISITES

8.08	Integers	pgs. 12-17
8.11.01	Applying the order of operations	pg. 30
8.11.02	Evaluating An Algebraic Expression	pg. 31
8.11.03	Open Sentences and Equations	pg. 32
8.11.05	Solving Equations by Properties of Equality	pg. 34

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.01.01.01	transform an equation which contains like terms into an equivalent equation by combining like terms;
9.01.01.02	transform an equation which has the variables in both members into an equivalent equation in which the variable appears only in one member;
9.01.01.03	transform an equation containing parentheses into an equivalent equation which does not contain parentheses;
9.01.01.04	transform an equation into an equivalent equation of the form $ax + b = c$;
9.01.01.05	determine the solution set of a linear equation in one variable and check.

9.01.02

SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES IN TWO VARIABLES

(2-Term, 8 days)
(3-Term, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

* 9.01.02.01	transform each equation of a system into the form $ax + by = c$;
9.01.02.02	determine the linear equation which is derived from a system of equations by applying the addition and/or multiplication properties;
* 9.01.02.03	transform one equation of a system of equations into the form $x = ay + c$ or $y = ax + b$;
9.01.02.04	determine the linear equation which is derived from a system of equations by substitution;
9.01.02.05	determine the solution set of a system of equations and check.
**9.01.02.06	graph a system of two linear equations on the same coordinate plane;
9.01.02.07	determine the solution of a system of consistent linear equations given the graph of the system;
*9.01.02.08	determine if a system of two linear equations is consistent, inconsistent or dependent;
**9.01.02.09	graph a system of two linear inequalities on the same coordinate plane;
9.01.02.10	identify the region which is the solution set to both, only one or neither of the inequalities given the graph of the system.

*This I.O. is not tested on an ISS test.
**Test items not scored by computer.

9.01.03

QUADRATIC EQUATIONS AND VERBAL PROBLEMS

(2-Term, 6 days)
(3-Term, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.01.03.01	transform a quadratic equation into standard form;
9.01.03.02	transform a quadratic equation from standard form to factored form;
9.01.03.03	determine the linear equations which are derived from the factored form of a quadratic equation; (if ab=o then a=o or b=o)
9.01.03.04	determine the solution set of a quadratic equation and check
9.01.03.05	solve word problems involving quadratic equations.

9.01.04

FRACTIONAL EQUATIONS# AND VERBAL PROBLEMS

(2-Term, 7 days)
(3-Term, 9 days)

PREREQUISITES

8.06.01.06 thru 8.06.01.08	Proportions	pg. 2

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.01.04.01	transform an equation with fractional coefficients into an equivalent equation without denominators, by "multiplying" by the L.C.D. and/or forming the product of means and extremes;
9.01.04.02	transform a fractional equation into an equivalent equation without denominators, by multiplying by the L.C.D. and/or forming the product of means and extremes;
9.01.04.03	transform a decimal equation into an equivalent equation with integral coefficients;
9.01.04.04	solve an equation involving fractions or decimals;
9.01.04.05	solve number problems involving fractions;
9.01.04.06	solve work problems.

Includes linear, quadratic and systems of equations

9.02

VERBAL PROBLEMS

		2-TERM Days	3-TERM Days
9.02.01	Number, Consecutive Integer, Age and Coin Problems	10	12
9.02.02	Perimeter, Angle and Triangle Problems	5	7
9.02.03	Motion Problems	7	9
9.02.04	Pythagorean, Ratio, Proportion and Similar Triangle Problems	6	8
9.02.05	Mixture, Investment, Digit and Business Problems	8	10
9.02.06	Literal Equations, Average and Percent Problems	4	6

9.02.01

NUMBER, CONSECUTIVE INTEGER, AGE AND COIN PROBLEMS

(2-Term, 10 days)
(3-Term, 12 days)

PREREQUISITES

8.11.06	Translating	pg. 35
8.11.07	Verbal Problems	pg. 36

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.02.01.01	solve number problems;
9.02.01.02	solve consecutive integer problems;
9.02.01.03	solve age problems;
9.02.01.04	solve coin problems.

9.02.02

VERBAL PROBLEMS

PERIMETER, ANGLE AND TRIANGLE PROBLEMS

(2-Term, 5 days)
(3-Term, 7 days)

PREREQUISITES

8.09.01.01 thru 8.09.01.03	Angles of a Triangle	pg. 19
8.10.01.03 thru 8.10.01.05	Complementary and Supplementary angles	pg. 24

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.02.02.01	solve perimeter problems;
9.02.02.02	solve complementary and supplementary angle problems;
9.02.02.03	solve problems involving angles of a triangle.

9.02.03

MOTION PROBLEMS

(2-Term, 7 days)
(3-Term, 9 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.02.03.01	express the rate, time or distance as an algebraic expression using "R • T = D";
9.02.03.02	solve "opposite" motion problems;
9.02.03.03	solve "overtake" motion problems;
9.02.03.04	solve "roundtrip" motion problems.

9.02.04

PYTHAGOREAN, RATIO, PROPORTION AND SIMILAR TRIANGLE PROBLEMS

(2-Term, 6 days)
(3-Term, 8 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.02.04.1	solve verbal problems involving the Pythagorean Theorem;
9.02.04.2	solve verbal problems involving proportions;
9.02.04.3	solve verbal problems involving similar triangles;
9.02.04.4	solve verbal problems involving ratios.

9.02.05

VERBAL PROBLEMS [1]

MIXTURE, INVESTMENT, DIGIT AND BUSINESS PROBLEMS

(2-Term, 8 days)
(3-Term, 10 days)

INSTRUCTIONAL OBJECTIVES

	The student will be able to...
9.02.05.01	solve investment problems;
9.02.05.01	solve mixture problems;
9.02.05.01	solve digit problems;
*9.02.05.01	solve business problems.

1- This module may be tested using one variable (test 9.02.05.1) or two variables (test 9.02.05.2)

* This I.O. is not tested on an I.S.S. test.

9.02.06

LITERAL EQUATIONS, AVERAGE AND PERCENT PROBLEMS

(2-Term, 4 days)
(3-Term, 6 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.02.06.01	solve a literal equation for the indicated variable;
9.02.06.02	transform a formula so that it can be solved for a particular variable;
9.02.06.03	solve "average" problems;
9.02.06.04	solve percent problems.

9.03

POLYNOMIALS, FACTORING AND FRACTIONS

		2-TERM Days	3-TERM Days
9.03.01	Addition, Subtraction, Multiplication and Division of Monomials	7	9
9.03.02	Addition, Subtraction and Multiplication of Polynomials	10	12
9.03.03	Division and Factoring Polynomials	11	13
9.03.04	Operations with Algebraic Fractions	11	13

9.03.01

POLYNOMIALS AND FACTORING

ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION OF MONOMIALS

(2-Term, 7 days)
(3-Term, 9 days)

PREREQUISITES

8.11.02	Evaluating an algebraic expression.	pg. 31

INSTRUCTIONAL OBJECTIVES

The student will be able to...

*9.03.01.01	identify a monomial as a term;
9.03.01.02	add monomials;
9.03.01.03	subtract monomials;
9.03.01.04	apply the principal: $x^a \cdot x^b = x^{a+b}$;
9.03.01.05	apply the principal: $(x^a)^c = x^{ac}$;
9.03.01.06	multiply monomials;
9.03.01.07	apply the principal: $x^a \div x^b = x^{a-b}$ $(x \neq 0)$;
9.03.01.08	divide monomials.

*This I.O. is not tested on an ISS test.

9.03.02

ADDITION, SUBTRACTION AND MULTIPLICATION OF POLYNOMIALS

(2-Term, 10 days)
(3-Term, 12 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

*9.03.02.01	identify a polynomial as a binomial or trinomial and determine its degree;
9.03.02.02	rearrange the terms of a polynomial in ascending or descending order;
9.03.02.03	simplify a polynomial expression by combining like terms;
9.03.02.04	add polynomials;
9.03.02.05	subtract polynomials;
9.03.02.06	multiply a polynomial by a monomial;
9.03.02.07	multiply a binomial by a binomial or square a binomial;
9.03.02.08	simplify polynomials by performing the indicated operations;
9.03.02.09	applying polynomials to geometric situations.

*This I.O. is not tested on an ISS test.

9.03.03

DIVISION AND FACTORING POLYNOMIALS

(2-Term, 11 days)
(3-Term, 13 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.03.03.01	divide a polynomial by a monomial;
9.03.03.02	divide a trinomial by a binomial;
9.03.03.03	recognize the factors of a monomial;
9.03.03.04	determine the greatest common factor of a set of monomials;
9.03.03.05	factor a polynomial by using the G.C.F.;
*9.03.03.06	multiply two binomials by using the "F.O.I.L. Method";
9.03.03.07	factor trinomials of the form $ax^2 + bx + c$ where $a = 1$, b and $c \neq 0$;
9.03.03.08	factor trinomials of the form $ax^2 + bx + c$ where $a \neq 1$, b and $c \neq 0$;
9.03.03.09	recognize the product of conjugate binomials;
9.03.03.10	factor a binomial which is a "difference of perfect squares";
9.03.03.11	factor a polynomial completely.

*This I.O. is not tested on an ISS test.

9.03.04

OPERATIONS WITH ALGEBRAIC FRACTIONS

(2-Term, 11 days)
(3-Term, 13 days)

PREREQUISITES

8.06.04	Computing positive and negative fractions	pg. 5
8.06.05A	Properties of Fractions	pg. 6

INSTRUCTIONAL OBJECTIVES

*9.03.04.01	recognize the quotient of two polynomials as an algebraic fraction;
9.03.04.02	determine the value(s) of the variable for which an algebraic fraction is undefined;
9.03.04.03	simplify an algebraic fraction;
9.03.04.04	express the product of two or more algebraic fractions in simplest form;
9.03.04.05	express the quotient of two algebraic fractions in simplest form;
*9.03.04.06	multiply and/or divide three algebraic fractions expressing the result in simplest form;
*9.03.04.07	determine the least common denominator of two or more algebraic fractions;
9.03.04.08	express the sum of two or more algebraic fractions in simplest form;
9.03.04.09	express the difference of two algebraic fractions in simplest form;
*9.03.04.10	combine two or more algebraic fractions and express the result in simplest form;
* 9.03.04.11	recognize the change in value of an algebraic fraction as the numerator and/or denominator increases or decreases.

*This I.O. is not tested on an ISS test. -17-

9.04

GRAPHING

		2-TERM Days	3-TERM Days
9.04.01	Graphing Linear Equations On The Coordinate Plane	10	12
9.04.02	Slope	10	12
9.04.03	Graphing Inequalities	6	8

GRAPHING LINEAR EQUATIONS ON THE COORDINATE PLANE

(2-Term, 10 days)
(3-Term, 12 days)

PREREQUISITES

8.11.09A	Finding Solutions and Graphing Linear Equations pg. 38

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.04.01.01	construct a rectangular coordinate axes system naming the X-axis, Y-axis, origin and quadrants;
9.04.01.02	plot a point on the coordinate plane which corresponds to an ordered pair;
9.04.01.03	determine the coordinates of a given point in the Cartesian plane;
9.04.01.04	determine the axis or quadrant in which a point is located given its coordinates;
9.04.01.05	determine a finite set of solutions for a linear equation in two variables;
9.04.01.06	realize that a solution is the coordinates of a point of the graph of the equation;
**9.04.01.07	construct the graph on the coordinate plane of a linear equation in two variables using a finite set of solutions;
*9.04.01.08	recognize that there is a one to one correspondence between the solution set of the equation and the coordinates of the points on the graph;
9.04.01.09	determine the ordinate or abscissa of a point on the graph of a linear equation given either of the coordinates or determine the value of a coefficient of a variable in a linear equation given the coordinates of a point on the graph.

*This I.O. is not tested on an ISS test.
**Test items not scored by computer.

continued

9.04.01.10	determine the X-intercept and the Y-intercept of the graph of a linear equation;
**9.04.01.11	construct the graph by the intercept method on the coordinate plane an equation of the form: $ax + by = c$ $a,b,c \neq 0$;
9.04.01.12	recognize or write an equation of a line parallel to the X-axis or Y-axis;
9.04.01.13	recognize simple absolute value equations.

**Test items not scored by computer.

9.04.02

SLOPE

(2-Term, 10 days)
(3-Term, 12 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

*9.04.02.01	understand that the slope of a line is the ratio of the change in vertical distance to the change in horizontal distance;
9.04.02.02	determine the slope of a line given the graph of the line on the coordinate plane;
9.04.02.03	determine the slope of a line given two points on the line;
9.04.02.04	determine if the slope of a line is positive, negative, zero or undefined given the graph of the line on the coordinate plane;
*9.04.02.05	determine if three or more points are collinear;
9.04.02.06	recognize the graph of a line given the slope and Y-intercept of the line;

*This I.O. is not tested on an ISS test.

continued

9.04.02.07	tranform a linear equation in two variables into the form; $y = mx + b$;
9.04.02.08	determine the slope and Y-intercept of a line from its equation;
**9.04.02.09	graph on the coordinate plane a linear equation in two variables using the "slope intercept" method;
9.04.02.10	determine the equation of a line given the slope and Y-intercept or any point on the line;
*9.04.02.11	determine the equation of a line given any two points on the line;
*9.04.02.12	determine if two lines are parallel given their equations.

*This I.O. is not tested on an ISS test.
**Test items not scored by computer.

9.04.03

GRAPHING INEQUALITIES

(2-Term, 6 days)
(3-Term, 8 days)

PREREQUISITES

8.08.01.06	Order of the set of integers	pg. 13
8.11.04	Solving and Graphing Inequalities by Inspection	pg. 33

INSTRUCTIONAL OBJECTIVES

The student will be able to...

9.04.03.01	determine the solution set of a linear inequality in one variable whose domain is the set of real numbers;
9.04.03.02	graph on the real number line the solution set of an inequality in one variable;
9.04.03.03	graph on the real number line the solution set of a compound inequality in one variable;
9.04.03.04	recognize the graph of a linear inequality in one variable drawn on the coordinate plane;
**9.04.03.05	graph on the coordinate plane a linear inequality in two variables;
9.04.03.06	determine if the coordinates of a point is a member of the solution set of an inequality given its graph.

**Test item not scored by computer

9.05

RADICALS AND TRIGONOMETRY

		2-TERM Days	3-TERM Days
9.05.01	Radicals	10	12
9.05.02	Trigonometry	8	10

9.05.01

RADICALS

(2-Term, 10 days)
(3-Term, 12 days)

PREREQUISITES

8.07.02.01 thru 8.07.02.05	Irrational Numbers	pg. 10

INSTRUCTIONAL OBJECTIVES

The student will be able to ...

*9.05.01.01	approximate the square root of a non perfect square to the nearest hundredth;
*9.05.01.02	know that $\sqrt{ab} = \sqrt{a}\sqrt{b}$ $a, b, \geq 0$;
*9.05.01.03	know $(\sqrt{a})^2 = a$ when $a \geq 0$ and $\sqrt{a^2} = \lvert a \rvert$ for all a;
9.05.01.04	determine the square root of a monomial which is a perfect square;
9.05.01.05	simplify the square root of a monomial which is not a perfect square;
9.05.01.06	simplify a radical expression of the form $a\sqrt{b}$, $b \geq 0$;
9.05.01.07	determine the solution set of a quadratic equation of the form $ax^2 + b = c$ $a \neq 0$;
9.05.01.08	combine radical expressions with like numerical and like monomial radicands;

continued

*This I.O. is not tested on an ISS test.

9.05.01.09	combine radical expressions with unlike numerical and unlike monomial radicands;
9.05.01.10	multiply two radical expressions and express the product in simplest form;
9.05.01.11	raise a radical expression to an indicated power;
9.05.01.12	divide two radical expressions and express the quotient in simplest form.

9.05.02

TRIGONOMETRY

(2-Term, 8 days)
(3-Term, 10 days)

INSTRUCTIONAL OBJECTIVES

The student will be able to...

*9.05.02.01	name the opposite and adjacent sides of an acute angle in a right triangle;
9.05.02.02	determine the tangent, sine or cosine ratio of an acute angle in a right triangle given the measures of its sides;
9.05.02.03	determine the tangent, sine or cosine of a given acute angle correct to four places by using the "Table of Values of Trigonometric Functions";
9.05.02.04	determine the measure of an acute angle to the nearest degree given its tangent, sine or cosine by using the "Table of Values of Trigonometric Functions";
9.05.02.05	compute the length of a side of a right triangle given the measure of an acute angle and the length of another side;
9.05.02.06	compute the measure of an acute angle of a right triangle to the nearest degree given two of the measures of its sides.
9.05.02.07	solve verbal problems involving trigometric functions.

*This I.O. is not tested on an ISS test.